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Proceedings of the Regional Assessment of Browns Bank North Scallops (*Placopecten magellanicus*)

February 8, 2011
Dartmouth, Nova Scotia

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Foreword

The purpose of these Proceedings is to document the activities and key discussions of the meeting. The Proceedings may include research recommendations, uncertainties, and the rationale for decisions made during the meeting. Proceedings may also document when data, analyses or interpretations were reviewed and rejected on scientific grounds, including the reason(s) for rejection. As such, interpretations and opinions presented in this report individually may be factually incorrect or misleading, but are included to record as faithfully as possible what was considered at the meeting. No statements are to be taken as reflecting the conclusions of the meeting unless they are clearly identified as such. Moreover, further review may result in a change of conclusions where additional information was identified as relevant to the topics being considered, but not available in the timeframe of the meeting. In the rare case when there are formal dissenting views, these are also archived as Annexes to the Proceedings.

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SUMMARY

The sea scallop, *Placopecten magellanicus*, is found only in the Northwest Atlantic, from Cape Hatteras to Labrador. Regionally, major areas of offshore fishing activity are Georges Bank, Browns Bank, German Bank, the Eastern Scotian Shelf (Banquereau, Middle Bank, Sable and Western banks), and St. Pierre Bank (south of Newfoundland). In the 1970s and early 1980s, a limited fishery occurred on Browns Bank along the southern edge at water depths greater than 100 m. In 1989, the fishery began to develop on the northern part of the Bank where it generally occurs today. A meeting of the Science Advisory Process was held February 8, 2011, at the Bedford Institute of Oceanography (BIO) in Dartmouth, Nova Scotia, to assess the stock. The last formal assessment of the Browns Bank north scallop was undertaken in 1998, although there has never been an analytical assessment model for the stock. The objective of the meeting was to provide harvest advice for the 2011 fishery using a similar model formulation to that developed for the 2009 assessment of Georges Bank scallops. Peer reviewers and meeting participants felt that the Working Paper presented sound scientific analyses based on the best available information on Browns Bank North scallops, and is acceptable for publication as a Research Document pending revision following discussions at the meeting. There was also support for the proposed Science Advisory Report provided edits discussed at the meeting were adopted within the final version of the report. The Science Advisory Report received consensus at the meeting.

Compte rendu de l'évaluation régionale du pétoncle du nord du banc de Brown (*Placopecten magellanicus*)

SOMMAIRE

Le pétoncle géant (*Placopecten magellanicus*) n'est présent que dans l'Atlantique Nord-Ouest, entre le cap Hatteras et le Labrador. Les principales zones de pêche hauturière sont le banc de Georges, le banc de Brown, le banc German, l'est du plateau néo-écossais (Banquereau, banc du Milieu, banc de l'île de Sable et banc Western) et le banc de Saint-Pierre (au sud de Terre-Neuve). Dans les années 1970 et au début des années 1980, une pêche limitée était pratiquée sur le banc de Brown, le long de la limite sud, à des profondeurs d'eau supérieures à 100 m. En 1989, la pêche a commencé à être menée sur la partie nord du banc, où elle a généralement lieu de nos jours. Une réunion du processus de consultation scientifique a eu lieu le 8 février 2011 à l'Institut océanographique de Bedford à Dartmouth (Nouvelle-Écosse). La dernière évaluation officielle du stock de pétoncle du nord du banc de Brown a été réalisée en 1998, mais il n'y a jamais eu de modèle d'évaluation analytique pour ce stock. La réunion visait à donner un avis sur la pêche de 2011 grâce à une formule de modèle semblable à celle élaborée pour l'évaluation du stock de pétoncle du banc de Georges de 2009. Les pairs examinateurs et les participants à la réunion étaient d'avis que le document de travail présentait des analyses scientifiques rigoureuses fondées sur les meilleurs renseignements disponibles sur le pétoncle du nord du banc de Brown, et qu'il peut être publié en tant que document de recherche en attendant sa révision à la suite des discussions durant la réunion. Ils ont également donné leur accord à l'avis scientifique proposé, sous réserve que les modifications discutées lors de la réunion soient adoptées dans la version définitive du rapport. L'avis scientifique a fait l'objet d'un consensus au cours de la réunion.

INTRODUCTION

A limited fishery occurred on Browns Bank along the southern edge at water depths greater than 100 m in the 1970s and early 1980s (Robert and Butler 1998). In 1989, the fishery began to develop on the northern part of the Bank where it generally occurs today (see: DFO 2011; Hubley et al. 2011). Since that time it has been managed under Scallop Fishing Area (SFA) 26, with an initial meat count restriction of no more than 55 meats per 500 g, which was reduced to 40 meats per 500 g in 1994 (Robert and Butler 1998). In 1998, the Bank was officially divided into North and South management areas to reflect the differing growth regimes of the two areas. Browns Bank South is a marginal area for growth, only supporting a fishery in years with exceptional growth conditions. Browns Bank North is the more productive area and is where 90% of the total landings have occurred since 1998. During this period, landings on Browns Bank North have ranged from 0 to 2000 tonne (t). Industry-managed closure areas have been used in the recent past to protect large densities of juveniles and encourage recruitment. There was no fishery in 2009. Modest Total Allowable Catches (TACs) of 200 t and 500 t were set for 2010 and 2011, respectively, as a large pulse of recruitment began to reach commercial size.

A meeting of the Science Advisory Process was held February 8, 2011, at the Bedford Institute Oceanography (BIO) in Dartmouth, Nova Scotia, to assess the status of the Browns Bank North scallop stock in support of management of the 2011 fishery. The last formal assessment of the Browns Bank North scallop stock was undertaken in 1998, although there has never been an analytical assessment model for the stock (Robert and Butler 1998). The meeting Chair-person, Ms. Tara McIntyre, first introduced herself, followed by an introduction of meeting participants (Appendix 1). The Chair thanked meeting participants for attending the DFO Science Advisory Process. The Chair noted that this was a science peer-review meeting in which a science advisory report would be completed. The Chair provided a brief overview of the Canadian Science Advisory Secretariat (CSAS) science advisory process and invited participants to review the meeting Terms of Reference (Appendix 2) and Agenda (Appendix 3). No revisions or additions were made to the Terms of Reference or Agenda. To guide discussion, a Working Paper was provided to meeting participants in advance of the meeting. A Science Advisory Report (SAR) was a product of the meeting. This Proceeding constitutes a record of the meeting's discussion.

PRESENTATION AND DISCUSSION

REVIEW OF WORKING PAPER

Presenter: Brad Hubley

The presenter reviewed the Working Paper. Discussion focused on various aspects of the document, including: Catch per Unit Effort (CPUE) and survey efficiency; recruit size and growth; and aging. A meeting participant noted that CPUE presented in the Working Paper appeared to disagree with other data provided, and that it might be underestimated. The presenter indicated that this would be revisited prior to finalizing the document. The presenter did note, however, that survey strata were based on historic CPUE, and that historic catch rate strata allow for a more efficient survey design compared to a bottom-type survey design. Another meeting participant asked if the definition of recruit size has changed. The presenter responded that the definition remains the same, but that growth data collection on Browns Bank has only begun. Further, it was noted that survey abundance of commercial-sized scallops is above the long term median, although recruits have decreased below long term median. It was agreed that adding a table to the Working Paper on biomass breakdown would be helpful.

Peer reviewers were given opportunity to provide a review of the Working Paper. It was noted that the figure on pre-recruits in the Working Paper was incorrect, and the presenter indicated that it would be revised prior to finalization of the document. There was then discussion on the decision table, and one reviewer felt that the table presented in the Working Paper did not make sense. The presenter clarified that the table is not considered a "decision" table, rather only summarizes, within the context of the model, the impact of a range of catch scenarios. The presenter further noted that the fishery's interim TAC is not a result of the assessment process. The presenter conceded, however, that there is greater uncertainty in the model regarding Browns Bank compared to Georges Bank. For instance, Georges Bank is logical with respect to conclusions in resolution. In contrast, on Browns Bank there is a decrease in biomass, decrease in recruitment, yet increase in TAC, despite the model overestimating biomass. Given this, a reviewer asked why the TAC increased for 2011, and it was clarified that management decisions for the fishery are based on many factors and not only biomass and recruitment. Last, a reviewer asked if uncertainty is taken into account in the assessment, and the presenter suggested that maybe advice should be provided earlier in the year so that the TAC is based on up-to-date science advice. In general, the peer reviewers and meeting participants felt that the Working Paper was thorough, scientifically sound, and well done.

REVIEW OF SCIENCE ADVISORY REPORT

Meeting participants reviewed the SAR section-by-section. The primary focus of discussion was on the fishery's Precautionary Approach reference points. It was noted that existing reference points are in the Integrated Fishery Management Plan, and meeting participants were not comfortable with changing them at this time. There was an openness to reviewing reference points at a regular frequency, although not annually, and it was suggested that a framework assessment might be an appropriate place to undertake such review. There was then discussion regarding characterization of abundance in the Sources of Uncertainty section with respect to CPUE, growth and recruitment changes, and natural mortality. Wording was drafted that was deemed suitable by meeting participants. There was no opposition to the document, and only minor revisions were proposed by meeting participants. In general, meeting participants felt that the SAR was well-written and suitable for publication. The SAR received consensus at the meeting.

CONCLUSIONS

Meeting participants felt the Working Paper presented sound scientific analyses based on the best available information on Browns Bank North scallops and is acceptable for publication as a Research Document pending revision following discussions at the meeting. There was also support for the proposed SAR provided edits discussed at the meeting were adopted in the final document. Sincere efforts were made in this science peer review process to acknowledge and address all comments and concerns raised by meeting participants provided they were appropriate and within the confines of acceptable peer review practice. The SAR received consensus at the meeting.

REFERENCES CITED

DFO. 2011. Assessment of Browns Bank North Scallops (*Placopecten magellanicus*). DFO Can. Sci. Advis. Sec. Sci. Advis. Rep. 2011/027.

Hubley, P.B., A. Glass, A. Reeves, J. Sameoto, and S.J. Smith. 2011. Browns Bank "North" Scallop (*Placopecten magellanicus*) Stock Assessment. DFO Can. Sci. Advis. Sec. Res. Doc. 2011/042: vi + 63p.

Robert, G., and M.A.E. Butler. 1998. Browns Bank North Scallop Stock Assessment - 1997. DFO Can. Stock Assess. Sec. Res. Doc. 1998/070.

APPENDICES

APPENDIX 1: LIST OF MEETING PARTICIPANTS

Name	Affiliation
den Heyer, Nell	DFO Maritimes / Dalhousie University
Despres, Noel	Comeau's Sea Foods Limited
Hardie, David	DFO Maritimes / PED
Hubley, Brad	DFO Maritimes / PED
Hurley, Peter	DFO Maritimes / PED
McIntyre, Tara	DFO Maritimes / PED
Mosher, Jim	Clearwater Seafoods
Penney, Christine	Clearwater Seafoods
Reeves, Alan	DFO Maritimes / PED
Robert, Ginette	Seafood Producers Association of Nova Scotia
Sameoto, Jessica	DFO Maritimes / PED
Sarty, Matt	Clearwater Seafoods
Smith, Stephen	DFO Maritimes / PED
Stevens, Greg	DFO Maritimes / FAM
Themelis, Daphne	DFO Maritimes / PED

APPENDIX 2: TERMS OF REFERENCE

Browns Bank North Scallop Assessment
Regional Peer Review – Maritimes Region

February 8, 2011
Dartmouth, NS

Chairperson: Tara McIntyre

Context

The status of Browns Bank North scallop was last formerly assessed in 1998. Harvest advice is requested on an annual basis by Fisheries and Aquaculture Management Branch (FAM), but the lack of a population model has hindered the provision of quantitative advice. A new model was developed for this population in 2010.

The current assessment was requested by FAM to provide harvest advice for 2011.

Objectives

Provide harvest advice for the 2011 fishery using a similar model formulation to that developed for the 2009 assessment of Georges Bank scallops.

Expected Products

- CSAS Science Advisory Report
- CSAS Proceedings
- CSAS Research Document

Participation

- DFO Maritimes Science
- DFO Maritimes Fisheries and Aquaculture Management
- Provincial Government representatives
- Industry

APPENDIX 3: MEETING AGENDA

Browns Bank North Scallop Assessment
Regional Peer Review – Maritimes Region

February 8, 2011
Dartmouth, NS

Chairperson: Tara McIntyre

DRAFT AGENDA

February 8, 2011

9:00 – 9:15	Welcome and Introduction (Chair)
9:15 – 10:15	Presentation of Browns Bank North Scallop Assessment (B. Hubley)
10:15 – 10:30	Break
10:30 – 12:00	Comments from reviewers and discussion
12:00 – 1:00	Lunch (not provided)
1:00 – 3:00	Review of Science Advisory Report
3:00 – 3:15	Break
3:15 – 4:00	Review of Science Advisory Report (as needed)